

AMENDMENTS TO THE CLAIMS**10/533758****JCT 17 Rec'd PCT/PTO 04 MAY 2005**

This listing of claims will replace all prior versions, and listings, of claims in

the application.

Listing of claims:

1. (Currently Amended) A method for the formation of a good contact surface on a support bar of an aluminum cathode used in electrolysis, comprising attaching a copper contact piece onto the end of which the support bar-a copper contact piece is attached, wherein the cathode plate is immersed immersing the cathode plate in an electrolysis cell and supporting the support bar is supported by its ends on the sides of the electrolysis cell so that the contact piece is located on top of a busbar, ~~characterised in that a transmission layer is formed~~ forming a transmission layer on the area ~~[[on]]~~ of the lower surface of the support bar contact piece, the contact surface, ~~which is to touch touching~~ the electrolysis cell busbar and the contact surface, after that the contact surface is coated coating the contact surface with a silver or silver alloy having a thickness of ~~[[0,5]]~~ 0.5 - 2 mm and, wherein the transmission layer and the coating form a metallurgical joint with the copper contact piece.

2. (Currently Amended) ~~[[A]]~~ The method according to claim 1, ~~characterised in that~~ wherein the transmission layer is tin or a tin-dominant layer.

3. (Currently Amended) ~~[[A]]~~ The method according to claim 1 ~~or 2,~~ ~~characterised in that~~ wherein the silver or silver alloy layer is formed using soldering technique.

4. (Currently Amended) ~~[[A]]~~ The method according to claim 1 ~~or 2,~~ ~~characterised in that~~ wherein the silver or silver alloy layer is formed using thermal spraying technique.

5. (Currently Amended) ~~[[A]]~~ The method according to claim 4, ~~characterised in that~~ wherein the thermal spraying technique is based on gas combustion.

6. (Currently Amended) ~~[[A]]~~ The method according to claim 4 ~~or 5,~~ ~~characterised in that~~ wherein the thermal spraying technique is high velocity oxy-fuel spraying.

7. (Currently Amended) ~~[[A]]The method according to claims 1—2 or 4—6, characterised in that~~ claim 1, wherein silver or silver alloy is in powder form.

8. (Currently Amended) ~~[[A]]The method according to claim 4 or 5, characterised in that~~ wherein the thermal spraying technique is flame spraying.

9. (Currently Amended) ~~[[A]]The method according to any of claims 1—2, 4—5 or 8, characterised in that~~ claim 1, wherein silver or silver alloy is in wire form.

10. (Currently Amended) ~~[[A]]The method according to any of the above claims, characterised in that~~ claim 1, wherein the contact surface is subjected to heat treatment after coating.

11. (Currently Amended) A method for ~~[[the]]~~ repairing a ~~[[of]]~~ contact surface of an aluminum cathode support bar used in electrolysis, ~~wherein a copper contact piece is attached~~ comprising attaching a copper contact piece to one end of the support bar, ~~in electrolysis the cathode plate is immersed~~ immersing a cathode plate into an electrolysis cell, ~~[[and]]~~ supporting the contact piece of the support bar ~~is supported on by~~ the electrolysis cell busbar, ~~characterised in that~~ straightening out linearly the lower surface acting as the contact surface of the support bar contact piece, or lower surface, is first straightened out linearly and forming a transmission layer of tin is formed on the lower surface, after that coating the contact surface is coated with silver or silver alloy having a thickness of [[0,5]]0.5 – 2 mm, so that the copper, tin and silver or silver alloy coating form and forming a metallurgical joint with the copper, tin and silver or silver alloy coating.

12. (Currently Amended) A method for ~~[[the]]~~ repairing a ~~[[of]]~~ contact surface of an aluminum cathode support bar used in electrolysis, ~~wherein a copper contact piece is attached~~ comprising attaching a copper contact piece to one end of the support bar, ~~[[and]]~~ furnishing the lower edge of the contact piece ~~is furnished with a notch, in electrolysis the cathode plate is immersed~~ immersing a cathode plate into an electrolysis cell, ~~[[and]]~~ supporting the support bar ~~is supported on by~~ the electrolysis cell busbar at the notch, ~~characterised in that~~ wherein the inclined sides of the notch act as the contact surface of the support bar contact piece, ~~and are first straightened~~ straightening out linearly the inclined sides of the notch, and then forming a transmission layer of tin is formed on the sides and after that coating the contact surface is coated with silver or silver alloy having a thickness of

~~[[0,5]]0.5 – 2 mm, so that the copper, tin and silver or silver alloy coating form and forming a metallurgical joint with the copper, tin and silver or silver alloy coating.~~

13. (Currently Amended) A support bar for an aluminum cathode used in electrolysis, where a cathode plate of the cathode is meant to be immersed in an electrolysis cell and the cathode support bar to be supported at its ends on the edge of the electrolysis cell, so that a contact piece of copper is attached to one end of the support bar, ~~characterised in that wherein~~ the area of the lower surface of the support bar contact piece, the contact surface touching the busbar, ~~has been coated with comprising a silver or silver alloy coating having a thickness of [[0,5]]0.5 – 2 mm and before coating, a transmission layer has been formed on the contact surface comprises a transmission layer, whcrein~~ the silver or silver alloy coating ~~forming forms~~ a metallurgical joint with the transmission layer and the copper of the contact piece.

14. ~~[[A]]The~~ support bar according to claim 13, ~~characterised in that wherein~~ the transmission layer is tin or a tin-dominant alloy.

15. ~~[[A]]The~~ support bar according to claim 13 ~~or 14, characterised in that wherein~~ the silver or silver alloy layer is formed using soldering technique.

16. ~~[[A]]The~~ support bar according to claim 13 ~~or 14, characterised in that wherein~~ the silver or silver alloy layer is formed using thermal spraying technique.